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EXAMINER

ROSARIO, DENNIS

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/078,299	Applicant(s) LIU, YING	
	Examiner Dennis Rosario	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

a. "The classification process" as mentioned on pages 9 and 10 needs a drawing.

b. "The batch process" as mentioned in page 10 needs a drawing.

c. "The basic flow chart for the ABM and APN algorithms" as mentioned on pages 13 and 14 needs a drawing. An actual flow chart and associated drawings depicting structural detail of the "Markov chain" and "neural network" as mentioned on page 13, second to last line and page 14, line 4, respectively, will enable a better understanding of the ABM and APN algorithms.

d. "The basic flow chart for the ABM algorithm" as mentioned on pages 17 and 18 describes a series of steps 1-7 that needs a drawing for a better understanding of the relationships between the steps.

1. the "ABM net" as mentioned in page 17, third line from the bottom.
What does the ABM net look like? What does the ABM net look like without connections?

2. "an input vector" as mentioned in page 17, second line from the bottom. The origin of the input vector is not clear. What is generating the input vector? Is there an image and the output of a classifier being combined to generate the input vector? If so, please show this configuration in a drawing.

3. "impose the input vector" should be represented in a drawing as the input vector being inputted or imposed to a learning module.

4. "The ABM neural connections are calculated based on the input vector" this should be represented as using the above mentioned input vector which is assumed to be inputted into a neural connections calculator.

5. "The Markov chain is formed" should be shown. Is the Markov chain related to the ABM net with no connections? If so, please indicated that the ABM net with no connections now includes a Markov chain based on the neural connections calculator. Also, the "invariant distribution" is used with the Markov chain. Is the invariant distribution a part of the neural connections calculator? If so, please show that the neural connections calculator calculates the invariant distribution.

6. Please show the distribution function being inputted to another classifier or the same classifier used to generate the input vector?

7. Show how the distribution function can be used to classify images. Is there a classifier that outputs "triplets" as mentioned in page 18, line 8. And what does a triplet or doublet look like? A reference to figs. 5 and 6 mentions the doublet or pairs and triplet, but there are no reference numbers with arrow that specifically point to what a doublet or triplet looks like.

e. "The basic flow chart for the APN algorithm" as mentioned on pages 18 and 19 describes a series of steps 1-10 that needs a drawing for a better understanding of the relationships between the steps.

1. the "APN neural net" as mentioned in page 18, step 1. What does the ABM net look like? What does the ABM net look like without connections?

2. "an input vector" as mentioned in page 17, second line from the bottom. The origin of the input vector is not clear. What is generating the input vector? Is there an image and the output of a classifier being combined to generate the input vector? If so, please show this configuration in a drawing.

3. "impose the input vector" should be represented in a drawing as the input vector being inputted or imposed to a learning module.

4. "The ABM neural connections are calculated based on the input vector" this should be represented as using the above mentioned input vector which is assumed to be inputted into a neural connections calculator.

5. "A mapping over each connection is established" is not shown as a drawing. Show what the mapping looks like in relation to the connections. Does the ABM neural connections that are calculated generate the mapping? If so, please show this in a drawing. The "domain" and "range" in page 18, second to last line does not make the mapping comprehensible in terms of the domain and range. Is the domain and range referring to a function or mapping that has a range dependent on a domain, such as $f(x)$ is the range which depends on (x) as the domain?

6. "the range of this mapping forms a vector, APN connection vector" is not shown in a drawing. The "domain" in page 19, line 2 and "range" in page 19, line 3 of this mapping to "form... [the] APN connection vector" in page 19, line 3 is not clear.

7. "The Markov chain is formed" should be shown. Is the Markov chain related to the ABM net with no connections? If so, please indicated that the ABM net with no connections now includes a Markov chain based on the neural connections calculator. Also, the "invariant distribution" is used with the Markov chain. Is the invariant distribution a part of the neural connections calculator? If so, please show that the neural connections calculator calculates the invariant distribution.

8. Please show the distribution function being inputted to another classifier or the same classifier used to generate "triplets of image, class, and weight." As mentioned in page 19, step 8.

9. Please show a comparison between the "input vector" in page 19, step 9 generated in step 2 and the "APN-connection-vector" generated in step 6 to modify the weight generated in step 8; and please show how a "new set of triplets" is produced based on the modification. Is the modified weight inputted into the triplet set to generate a new set of triplets?

10. "These triplets of image, class, and weight" is not shown. What does a triplet or doublet look like? A reference to figs. 5 and 6 mentions the doublet or pairs and triplet, but there are no reference numbers with arrow that specifically point to what a doublet or triplet looks like.

f. "Sensitivity" is described in pages 20 and 21, but it is not clear "when deciding whether an image ,l2, in a search directory is a match to the current sample image,l1 in page 21, lines 1,2 and how "applying this new distance, d, a new set, h3, is obtained." Please show in a drawing how "Similarity determines" the "new" or "maximum distance" in page 21, lines 6 and 4,respectively, d, is generated. What is a "L1" and "L2" distance as mentioned in page 21, line 4? Please show a drawing of the "reduction in the connections space" in page 21, line 9 using "sensitivity" in pages 20 5th line from the bottom and on page 21,line 9.

g. "The 'Blurring'" operation described in page 21 determines a "maximum distance" in page 21, line 16 which is used to generate a "new sphere set" in page 21, line 18. However, the maximum distance, d, is not illustrated in a drawing in relation to a sphere and the maximum distance, d, is not clear as to how it is determined in a blurring operation. Is the maximum distance, d, measured within a blurred image? Page, 21, line 20 refers to an "expansion in the image space is determined by the Blurring." Please show in a drawing this expansion in image space in relation to the maximum difference.

h. A drawing of the "ABM Training Algorithm" will enable a better understanding of the related steps 1-7 on pages 24,25:

1. Show a drawing of deleting existing ABM connections. Is the ABM connections an ABM net?

2. The origin of the "input vector" is not clear. What is generating the input vector? Is there an image and the output of a classifier being combined to generate the input vector? If so, please show this configuration in a drawing.

3. "The ABM neural connections are calculated based on the input vector" this should be represented as using the above mentioned input vector which is assumed to be inputted into a neural connections calculator.

4. "impose the input vector" generated in step 2 should be represented in a drawing as the input vector being inputted or imposed to ABM connections or net of step 1. And where does the "image piece,p1" and the associated values of "k1" and "k2" in step 4 come from? Does it come from the image of step 2? How is k1 "excited" as mentioned on page 25,2nd line of step 4. How is k2 "grounded" as mentioned on page 25, 3rd line of step 4. How and what constructs "A neural state vector" that represents k1 and k2? A majority of these questions can be easily understood if represented as a drawing.

5. Step 5 states, "All such vectors together form a space, the connection space." Step 4 describes how to construct a "neural state vector". But, step 5 has the appearance of a plurality of vectors. What is generating the plurality of vectors? And are the plurality of vectors in step 5 the neural state vectors of step 4? Also, please show in a drawing the "distance, either the Hausdorff distance or L1 distance or L2 distance" as mentioned in step 5. Also, please explain what is the Hausdorff, L1 and L2 distances in relation to the "connection space" of step 5.

6. Step 6 will be understood with a drawing that shows how the distance is generated in relation to other distances.

7. Step 7 states, "The Markov chain is formed after the connections are established." What are the connections? Are the connections the "ABM neural connections" from step 3 or "connection vectors" in step 5 or "The connection" in step 6? At what point is the Markov chain formed?

i. A drawing of the "APN Training Algorithm" will enable a better understanding of the related steps 1-9 on pages 25,26.

Steps 1-7 have been discussed in the previous section: "ABM Training Algorithm" on pages 24,25.

8. Step 8 describes a mapping function from each connection. Is the mapping function mapping connections from step 7 or step 6? Also, the way the mapping function maps from "the k1 neuron to the k1 pixel value which excited these neurons" as mentioned on page 26, lines 3,4 of step 8 is not clear. How does a k1 pixel excite the k1 neuron? What is the "original segment p1" as mentioned on page 26, lines 4,5 of step 8? Is the "original segment p1" referring to page 25, line 1 of step 4 of an "...an image piece, p1..." or "The connection represented by p1..." on page 25, line 1 of step 6?

9. Step 9 describes how "...segment, p1,..." on page 26, line 1 of step 9 generates many other connections. Is segment p1 referring to p1 of step 4 or step 5 or step 6 or step 8? A drawing of how a mapping from a "neuron in this connection is one of the original k1 neurons in p1, then this neuron is mapped into the corresponding pixel value..." as mentioned on page 26, lines 1-3 of step 9.

j. A drawing of the "ABM Recognition Algorithm" on page 26 will enable a better understanding of the related steps 1-4, which are similar to the steps 2,3,5,6 and 7 described in the "flow chart for the ABM algorithm" on page 17,18 and previously in the office action in paragraph "e".

k. A drawing of the "APN Recognition Algorithm" on pages 26,27 will enable a better understanding of the related steps 1-5, which are similar to the steps 1-4 of the "ABM Recognition Algorithm" on page 25 except for the additional step 4, which describes a comparison. Please show a comparison between the "input vector" and the "APN-connection-vector" to modify the weight generated in step 3; and where does the "input vector" and "APN-connection-vector" come from? Where does the input vector and the APN-connection-vector come from; from the "APN algorithm" described on page 18? Please show in a drawing where there vectors come from and being inputted into the APN Recognition Algorithm. Please show how a "new set of triplets" is produced based on the modification. Is the modified weight inputted into the triplet set to generate a new set of triplets?

2. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. As the value of a design patent is largely dependent upon the skillful preparation of the drawings, applicant might consider it desirable to employ the services of a professional patent draftsman familiar with design practice. The U.S. Patent and Trademark Office cannot aid in the selection of a draftsman.

Specification

4. The abstract of the disclosure is objected to because line 7, contains the word "research" which ought to be amended to "search".

Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

Page 17, third paragraph contains the word "computers" which ought to be amended to "computer".

Page 20, line 1, has the phrase "the a source" which ought to be amended to "the source".

Page 20, last line has the word "point" which ought to be amended to "connections".

Page 21, line 3 has the word "The" which ought to be amended to "This".

Page 22, line 2 has the phrase "limit how large" which ought to be amended to "limit as to how large".

Page 22, line 10 has the phrase "integration all" which ought to be amended to "integration of all".

Page 22, fourth line from the bottom has the phrase "Assume 1 400X400 image" ought to be amended to "Assume a 400X400 image".

Page 24, line 19 has the phrase "be use." which ought to be amended to "be used."

Page 25, line 6 has the phrase "The connection" which ought to be amended to "A connection".

Appropriate correction is required.

6. The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood:

Pages 4 and 8 describes a series of matching methods using a notation in the form of (1:1 matching, binary output: yes/no), (1:N matching, single output to indicate a classification), (!:N matching, multiple output) and (N:1 or N:N matching) which requires an explanation of the "N" notation.

Page 20, lines 1,2 states that the "key...images" are passed to the next layer. What are key images and what is the next layer? Are the key images inputted into the Application Layer of figure 2 and passed to the Presentation Layer of figure 2?

Page 21, lines 15,16 states, "this image I2 can be turned a small set around the I2." Is this referring to a conversion from an image I2 to a set IS2.

Page 21, lines 16,17 states, "Blurring determines a maximum distance, d, either using the Hausdorff distance or L1 distance or L2 distance." The determination of a maximum distance is not clear or shown in a drawing.

Page 21, lines 22-28 describes a "Shape Cut" operation, however it is not clear as to how a "distance between [images] I1 and I2, d, can be determined, either using the Hausdorff distance or L1 distance or L2 distance." in page 21, lines 25,26. Is the distance between images a score or weight and not a physically measurable distance?

Page 24, step 3 of the ABM Training Algorithm section states, "The image is randomly breaking down into a predefined number of pieces." Is the predefined number of pieces referring to N as mentioned previously? The "randomly breaking down into a predefined number of pieces." in step 3 is not clear. Is the image breaking down into N pieces? What does breaking down mean? Does breaking down mean a reduction in size, sampling?

Page 30, 4th line of the "Enrollment" section describes that "the enrollment is always 100%." A further explanation is required.

Page 31, 1st line of the "Parameters" section describes an array, but computer code is shown. An explanation of the computer code in terms of an array is required.

In addition, the DRAWINGS section includes other items that are not understood.

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

A shortened statutory period for reply to this action is set to expire ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this letter.

7. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

8. A substitute specification is required pursuant to 37 CFR 1.125(a) because the present specification requires corrections.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

9. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office." This publication is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Claim Objections

10. Claims 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,23,24 and 25 are objected to because of the following informalities:

The above-mentioned claims include words that are enclosed with parentheses. The enclosed words including the parentheses ought to be deleted.

Claims 3,5,6,7,11,12,13,14,15,16,17,18,22,23,24,25,26 and 27 objected to because of the following informalities:

The above-mentioned claims include words that are enclosed with quotations. The quotations around the respective words ought to be deleted.

Claims 9 and 10, line 2 has the phrase "such as Microsoft Internet Explorer" which ought to be deleted.

Claims 9 and 10, line 3 has the words "web page" which ought to be deleted and changed to "results".

Claim 28, line 1:"images" ought to be amended to "image".

Note that claims 3,5,6,7,18,23,24,25,26 and 27 must be corrected to form one sentence.

Appropriate correction is required.

11. The following quotations of 37 CFR § 1.75(a) is the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

12. Claim 19 is objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Claim 19, line 2 refers to "the neural layer", but there is no neural layer mentioned in claims 1 and 3, thus "the neural layer" ought to be amended to "a neural layer".

Claim Rejections - 35 USC § 112

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claims 1-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, line 3 states, "...training by one click..." How is training by one click accomplished? What is a click? Is claim 1 claiming that training is executed by the push of a button as claim 5 suggests? Line 4 states, "...searching by one click..." How is searching by one click accomplished? What is a click? Is claim 1 claiming that searching is executed by the push of a button?

Claim 3, line 3 states, "...training by one click..." How is training by one click accomplished? What is a click? Is claim 3 claiming that training is executed by the push of a button as claim 6 suggests? Line 4 states, "...searching by one click..." How is searching by one click accomplished? What is a click? Is claim 3 claiming that searching is executed by the push of a button?

Claim 8 describes a mapping function on line 2, but the specification does not provide an adequate description for the mapping function.

The claim 8 might be fatally defective; that is, it might not be possible to introduce the mapping function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claims 9 and 10, line 2 describes "a new exiting process" which is not in the specification.

The claims 9 and 10 might be fatally defective; that is, it might not be possible to introduce the "new exiting process" without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claims 14 and 23, line 2 and line 1, respectively, describe a "Sensitivity" function, but the specification does not provide an adequate description for the "Sensitivity" function.

The claims 14 and 23 might be fatally defective; that is, it might not be possible to introduce the "Sensitivity" function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claims 15 and 24, line 2 and line 1, respectively, describe a "Blurring" function, but the specification does not provide an adequate description for the "Blurring" function.

The claims 15 and 24 might be fatally defective; that is, it might not be possible to introduce the "Blurring" function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 20 describes the “ABM algorithm”, but the specification does not provide an adequate description or drawing of the ABM algorithm.

The claim 20 might be fatally defective; that is, it might not be possible to introduce the “ABM algorithm” function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 21 describes the “APN algorithm”, but the specification does not provide an adequate description or drawing of the APN algorithm.

The claim 21 might be fatally defective; that is, it might not be possible to introduce the “APN algorithm” function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claims 22 describes the “APN algorithm” on line 1, but the specification does not provide an adequate description or drawing of the APN algorithm.

The claim 22 might be fatally defective; that is, it might not be possible to introduce the “APN algorithm” function without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 23 describes the “APN algorithm” and “Sensitivity”, but the specification does not provide an adequate description or drawing of the APN algorithm and “Sensitivity”.

The claim 23 might be fatally defective; that is, it might not be possible to introduce the “APN algorithm” function and “Sensitivity” without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 25, line 4 describes "a distance as a parameter", but the specification does not provide an adequate description of the "distance as a parameter".

The claim 25 might be fatally defective; that is, it might not be possible to introduce the distance as a parameter without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 26, line 1 describes a "connection space" and lines 5 and 6 describe "a distance as a parameter", but the specification does not adequately describe or show in a drawing the connection space and does not adequately describe or show in a drawing the distance as a parameter in the connection space.

The claim 26 might be fatally defective; that is, it might not be possible to introduce the distance as a parameter in a connection space without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 27, lines 2,3 describe converting from "binary neural net to a multi-valued neural net" which is not discussed in the specification

The claim 27 might be fatally defective; that is, it might not be possible to introduce a conversion of a "binary neural net to a multi-valued neural net" without introducing new matter (35 U.S.C. 132, 37 CFR 1.121).

Claim 28 describes classification on line 2, but the specification does not adequately describe or show in a drawing classification.

15. It is suggested that applicant may submit large, clear informal drawings or photographs which show:

- a) "The classification process" as mentioned on pages 9 and 10;
- b) "The batch process" as mentioned in page 10;
- c) "The basic flow chart for the ABM and APN algorithms" as mentioned on pages 13 and 14;
- d) "The basic flow chart for the ABM algorithm" as mentioned on pages 17 and 18 describes a series of steps 1-7;
- e) "The basic flow chart for the APN algorithm" as mentioned on pages 18 and 19 describes a series of steps 1-10;
- f) "Sensitivity" as described in pages 20 and 21;
- g) "The 'Blurring'" operation as described in page 21;
- h) The "ABM Training Algorithm" on pages 24,25;
- i) The "APN Training Algorithm" on pages 25,26;
- j) The "ABM Recognition Algorithm" on page 26;
- k) The "APN Recognition Algorithm" on pages 26,27;

clearly and accurately in order that the examiner may be in a position to determine if the claim may be clarified without the addition of new matter (35 U.S.C. 132, 37 CFR 1.121). In the alternative, applicant may disclaim the areas or portions of the design which are considered indefinite and nonenabling by converting them to broken lines and amend the specification to include a statement that the portions of the specification shown in broken lines form no part of the claimed design.

Art Unit: 2621


Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is 703-305-5431. The examiner can normally be reached on 6-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DR
Dennis Rosario
Unit 2621


BHAVESH M. MEHTA
SUPERVISING PATENT EXAMINER
TECHNOLOGY CENTER 2800